

SUPPORT FOR THE AMENDMENT

Support for the amendment to claim 1 is found in claim 2 as originally presented.

Support for claim 4 is found on page 5, lines 7-9 of the specification. Support for claim 5 is found on page 5, lines 21-25 of the specification. Support for claim 6 is found on page 6, line 6 of the specification. Support for claims 7-9 is found on page 7, lines 4-5 of the specification. Support for claims 10-11 is found on page 7, lines 15-18 of the specification. No new matter would be added to this application by entry of this amendment.

Upon entry of this amendment, claims 1 and 3-11 will now be active in this application.

REQUEST FOR RECONSIDERATION

The present invention is directed to a method for regenerating an immobilized enzyme for lipolysis.

Applicants wish to thank examiners Singh and Witz for the helpful and courteous discussion held with their U.S. representative on July 8, 2005. At that time, applicants' U.S. representative argued that applicants have discovered that by controlling the equilibrium concentration of fatty acids in the solvent, that high activities of a regenerated immobilized enzyme could be obtained. The following is intended to expand upon the discussion with the examiners.

Immobilized lipase enzymes have been used commercially and methods for regenerating the activity of such immobilized enzymes are sought.

The present invention addresses this problem by providing a method for regenerating an immobilized enzyme for lipolysis by washing the immobilized enzyme with a solvent, during which an equilibrium concentration of fatty acids is controlled to within a range of 4-20 wt.%. Applicants have discovered that by controlling the equilibrium concentration of

fatty acids in the solvent, that an immobilized enzyme for lipolysis of high activity may be obtained. Such a method is nowhere disclosed or suggested in the cited prior art of record.

The rejection of claims 1-3 under 35 U.S.C. §103(a) over Balcao et al. in further view of JP 05-137,574 and JP 11-075,834 is respectfully traversed.

None of the cited prior art relied upon by the examiner discloses or suggests a method in which an equilibrium concentration of fatty acids in the solvent is controlled to be within 4-28 wt.%.

Balcao et al. merely describes on page 413 that lipases may be regenerated in a cleaning and regeneration step using ethanol and hexane, followed by replacement with fresh lipase. There is no disclosure or suggestion to control an equilibrium concentration of fatty acids to within 4-28 wt.%.

JP '574 and JP '834 have been cited, asserting a teaching of regeneration using solvent amounts of from 1-5 times that of the immobilized lipase. The examiner recognizes that there is no express teaching to control an equilibrium concentration to be within the range of 4-28 wt.%, but rather asserts that it would have been obvious to adjust such an equilibrium concentration in order to optimize the regeneration efficiency.

Applicants respectfully submit that it would not have been obvious to control an equilibrium concentration of fatty acids in the solvent to be from 4-28 wt.% as there is no disclosure or suggestion of any relationship between an equilibrium concentration of fatty acids in the solvent and an activity of a regenerated enzyme. Applicants note that the claims have been amended to recite control of the fatty acid equilibrium concentration to fall within a range of 4-28 wt. % As there is no suggestion of such a relationship, it would not have been obvious to control the equilibrium concentration to be within 4-28 wt.%. In the absence of any knowledge of any result achieved by changing the variable of fatty acid equilibrium concentration, optimization of the amount of solvent, and therefore the equilibrium

concentration of fatty acids in the solvent, would not have been obvious. As the prior art fails to disclose or suggest any relationship between the activity of the regenerated enzyme and the equilibrium concentration of fatty acids in the solvent, the claimed invention is clearly not obvious over the cited prior art relied upon by the examiner. Accordingly withdrawal of the rejection under 35 U.S.C. §103 is respectfully requested.

Applicants submit that this application is now in condition for allowance and early notification of such action is earnestly solicited.

Respectfully submitted,

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